



Attorney Docket No. SPO-590  
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: ) Group Art Unit: 1754  
)  
KOMATSU; ISHIDA; IGARASHI; ) Examiner: Wayne A. Langel  
KONDO; MINAGAWA; SATO; SATO )  
)  
Serial No. 09/786,427 )  
)  
Filed: March 06, 2001 )  
  
For: ZINC-MODIFIED COMPOSITE POLYBASIC SALT, METHOD  
OF PREPARING THE SAME AND USE THEREOF

Appendix A

Please amend the following claims according to 37 C.F.R.  
§1.121 concerning a manner for making claim amendments.

1. (Currently amended) A composite metal polybasic salt  
having a chemical composition represented by the following  
general formula (1),



wherein  $M^2$  is a divalent metal other than Zn,  $M^3$  is a  
trivalent metal, ~~A is an inorganic or organic anion~~ A is a  
sulfuric acid ion, and a, b, x, y and z are numbers satisfying  
the following formulas,

i)  $0 \leq a, 0 < b$

ii)  $3x + 2(a + b) - y - mz = 0$  (wherein m is a  
valency of anion A),

iii)  $0.3 \leq (a + b)/x \leq 2.5$ ,

iv)  $1.5 \leq y/(x + a + b) \leq 3.0$ , and

v)  $4.0 \leq (x + a + b)/z \leq 20.0$ , and

n is a number of not larger than 7, exhibiting diffraction peaks at  $2\theta = 2$  to  $15^\circ$ ,  $2\theta = 19.5$  to  $24^\circ$ , a single peak at ~~and~~  $2\theta = 33$  to  $50^\circ$ , and a single peak at  $2\theta = 60$  to  $64^\circ$  in the X-ray diffraction (Cu- $\alpha$ ).

Claims 2-10 (Cancelled)

11. (Currently amended) A method of preparing ~~a~~ the composite metal polybasic salt of claim 1 by reacting a sulfuric acid salt ~~water-soluble salt~~ of a trivalent metal with an oxide, a hydroxide or a sulfuric acid salt ~~water-soluble salt of a~~ ~~divalent metal including~~ of zinc or zinc and magnesium, ~~as an essential component~~ under the conditions of a pH of from 3.8 to 9.0 and a temperature of not lower than  $50^\circ\text{C}$  ~~and, if necessary, executing the ion exchange in the presence of an acid or a soluble salt of acid.~~

Claims 12-16 (Cancelled)

17. (Previously added) A composite metal polybasic salt

according to claim 1, wherein the trivalent metal ( $M^3$ ) in said formula is aluminum.

Claims 18-23 (Cancelled)

24. (Currently amended) A composite metal polybasic salt according to claim 1, ~~wherein said composite metal polybasic salt~~ which has a laminate asymmetric index ( $I_s$ ) defined by the following formula (2),

$$I_s = \tan\theta_2 / \tan\theta_1 \quad \text{--- (2)}$$

201  
wherein  $\theta_1$  is an angle subtended by a peak perpendicular in the X-ray diffraction peak of a predetermined spacing and a peak tangent on the narrow angle side, and  $\theta_2$  is an angle subtended by the peak perpendicular at the above peak and a peak tangent on the wide angle side, which is not smaller than 1.5 at a peak of  $2\theta = 33$  to  $50^\circ$ .

Claims 25 and 30 (Cancelled)

31. (Previously added) An additive for resins comprising a composite metal polybasic salt according to claim 1.

32. (Previously added) A heat insulator comprising a

composite metal polybasic salt according to claim 1.

33. (Previously added) An anion exchanger comprising a composite metal polybasic salt according to claim 1.

Claims 34-37 (Cancelled)

38. (Currently amended) A composite metal polybasic salt obtained by ion-exchanging the sulfuric acid anion in the composite metal polybasic salt of according to claim 2 1 with at least one anion selected from the group consisting of a wherein the anions (A) in said formula are sulfuric acid ions, carbonic acid ions, silicic acid ions, an organopolycarboxylic acid ions, ~~or~~ and a phosphoric acid ions.

Claim 39 (Cancelled)

40. (Previously added) An additive for resins comprising a composite metal polybasic salt according to claim 38.

41. (Previously added) A heat insulator comprising a composite metal polybasic salt according to claim 38.

B1  
Claim 42 (Cancelled)

---

B2  
43. (New) A method of preparing the composite metal polybasic salt of claim 38 by executing the ion-exchange of the sulfuric acid anion of the composite metal polybasic salt of claim 1 in the presence of at least one acid selected from the group consisting of a carbonic acid, a silicic acid, an organocarboxylic acid and a phosphoric acid, or a soluble salt thereof.

---